

Serial No. 10/725,934
Amendment dated August 31, 2006
Reply to Office Action of June 2, 2006

Docket No. K-0588

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A laundry dryer having a gas combustion apparatus, the apparatus comprising:

a mixing pipe, having a mixing passage extending from an inlet end to an outlet end adapted to mix gas with primary air, the primary air and gas entering the mixing passage at the inlet end and a gas-and-air mixture exiting the mixing passage at the outlet end; [[and]]

a flame holder, disposed at the outlet end of said mixing pipe adapted to separate the gas-and-air mixture exiting said mixing pipe into a complex plurality of jetted streams, the flame holder comprising an annular hub having a center flame hole and a plurality of outer wings radiating from the annular hub; and

an igniter disposed adjacent the outlet end of said mixing pipe, wherein the igniter is adapted to ignite the gas-and-air mixture of said mixing pipe, wherein at least one of said outer wings has a circumferential width that is greater than the circumferential width of any other outer wing of said outer wings, and wherein said igniter is disposed adjacent said at least one outer wing.

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2. (Canceled)

3. (Currently Amended) The laundry dryer as claimed in claim [[2]] 1, wherein said annular hub has a plurality of outer flame holes formed at a predetermined interval around said center flame hole.

4. (Canceled)

5. (Currently Amended) ~~The A laundry dryer as claimed in claim 3 having a gas combustion apparatus, the apparatus comprising:~~

a mixing pipe having a mixing passage extending from an inlet end to an outlet end adapted to mix gas with primary air, the primary air and gas entering the mixing passage at the inlet end and a gas-and-air mixture exiting the mixing passage at the outlet end;

a flame holder disposed at the outlet end of said mixing pipe adapted to separate the gas-and-air mixture exiting said mixing pipe into a complex plurality of jetted streams, the flame holder comprising an annular hub having a center flame hole and a plurality of outer wings radiating from the annular hub; and

an igniter disposed adjacent the outlet end of said mixing pipe, wherein the igniter is adapted to ignite the gas-and-air mixture of said mixing pipe, wherein said annular hub has a

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plurality of outer flame holes formed at a predetermined interval around said center flame hole,
and wherein at least one of the outer flame holes has a circumferential length that is greater than
a diameter of any other outer flame hole of said outer flame holes, and wherein said igniter is
disposed adjacent said at least one outer flame hole.

6. (Currently Amended) ~~The A laundry dryer as claimed in claim 3 having a gas combustion apparatus, the apparatus comprising:~~

a mixing pipe, having a mixing passage extending from an inlet end to an outlet end adapted to mix gas with primary air, the primary air and gas entering the mixing passage at the inlet end and a gas-and-air mixture exiting the mixing passage at the outlet end;

a flame holder, disposed at the outlet end of said mixing pipe adapted to separate the gas-and-air mixture exiting said mixing pipe into a complex plurality of jetted streams, the flame holder comprising an annular hub having a center flame hole and a plurality of outer wings radiating from the annular hub; and

an igniter disposed adjacent the outlet end of said mixing pipe, wherein the igniter is adapted to ignite the gas-and-air mixture of said mixing pipe, wherein said annular hub has a plurality of outer flame holes formed at a predetermined interval around said center flame hole, and wherein said outer wings respectively comprise a plurality of bent portions formed at distal ends of said outer wings to be directed back toward said mixing pipe, each of said bent portions

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being inclined at a predetermined angle with respect to a central axis of said mixing pipe and said annular hub.

7. (Original) The laundry dryer as claimed in claim 6, wherein the predetermined angle is between 10° and 30°.

8. (Original) The laundry dryer as claimed in claim 3, further comprising a pair of support arms, extending from opposite sides of said annular hub, to be fixed to an outer surface of said mixing pipe so that said flame holder is disposed at a predetermined distance forward of the outlet end of said mixing pipe.

9. (Original) The laundry dryer as claimed in claim 3, wherein each of the plurality of outer flame holes of said annular hub is aligned with one of said outer wings.

10. (Currently Amended) The A laundry dryer as claimed in claim 3 having a gas combustion apparatus, the apparatus comprising:

a mixing pipe having a mixing passage extending from an inlet end to an outlet end adapted to mix gas with primary air, the primary air and gas entering the mixing passage at the inlet end and a gas-and-air mixture exiting the mixing passage at the outlet end;

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a flame holder disposed at the outlet end of said mixing pipe adapted to separate the gas-and-air mixture exiting said mixing pipe into a complex plurality of jetted streams, the flame holder comprising an annular hub having a center flame hole and a plurality of outer wings radiating from the annular hub; and

an igniter disposed adjacent the outlet end of said mixing pipe, wherein the igniters is adapted to ignite the gas-and-air mixture of said mixing pipe, wherein said annular hub has a plurality of outer flame holes formed at a predetermined interval around said center flame hole, said annular hub comprising:

a rounded inner edge protruding forwardly from a perimeter of the center flame hole; and

a plurality of inner wings extending from an inner circumference of said rounded inner edge.

11. (Original) The laundry dryer as claimed in claim 10, said inner wings comprising:
a plurality of rearward bosses, each having a predetermined length extending directly toward said mixing pipe; and
a plurality of inward bosses extending toward the center of said annular hub, wherein circumferential widths of said rearward and inward bosses fully occupy the inner circumference of said rounded inner edge.

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12. (Original) The laundry dryer as claimed in claim 11, wherein said inward bosses are respectively disposed between said outer wings.

13. (Original) The laundry dryer as claimed in claim 12, wherein each of the plurality of outer flame holes of said annular hub is aligned with one of said outer wings.

14. (Original) The laundry dryer as claimed in claim 1, wherein said flame holder is disposed at a predetermined distance forward of the outlet end of said mixing pipe.

15. (Previously Presented) The laundry dryer as claimed in claim 1, wherein said mixing pipe is inclined at a predetermined angle upward with respect to a base, from the inlet end to the outlet end, to facilitate propagation of a flame.

16. (Original) The laundry dryer as claimed in claim 1, wherein the mixing passage of said mixing pipe has a circular cross-section that tapers from the outlet end to the inlet end.

17. (Previously Presented) The laundry dryer as claimed in claim 1, further comprising means for supplying gas, said gas supplying means comprising:
a valve for controlling the supplied gas; and

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a gas nozzle, disposed at the inlet end of said mixing pipe, for injecting the supplied gas into said mixing pipe according to the control of said valve.

18. (Previously Presented) The laundry dryer as claimed in claim 3, wherein said outer wings radiate from said annular hub at intervals corresponding to the interval of the outer flame holes of said annular hub.

19. (Previously Presented) The laundry dryer as claimed in claim 18, wherein at least one of said outer wings has a circumferential width of at least twice the circumferential width of any other outer wing of said outer wings.

20. (Currently Amended) A laundry dryer having a gas combustion apparatus, the apparatus comprising:

a mixing pipe, having a mixing passage extending from an inlet end to an outlet end, adapted to mix gas with primary air, the primary air and gas entering the mixing passage at the inlet end and a gas-and-air mixture exiting the mixing passage at the outlet end; and

a flame holder, disposed at the outlet end of said mixing pipe, adapted to separate the gas-and-air mixture exiting said mixing pipe into a complex plurality of jetted streams,

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the flame holder comprising an annular hub having a center flame hole and a plurality of discrete inner wings radiating from the annular hub into the center flame hole.